Volunteer Lake Assessment Program Individual Lake Reports

POOL POND, RINDGE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	2,752	**Max. Depth (m):**	4.1	**Flushing Rate (yr^{-1}):**	5.5
Surface Area (Ac.):	119	**Mean Depth (m):**	2.4	**P Retention Coef:**	0.52
Shore Length (m):	3,400	**Volume (m^3):**	1,175,500	**Elevation (ft):**	1009

TROPHIC CLASSIFICATION

Year	Trophic class
1980	MESOTROPHIC
1992	MESOTROPHIC

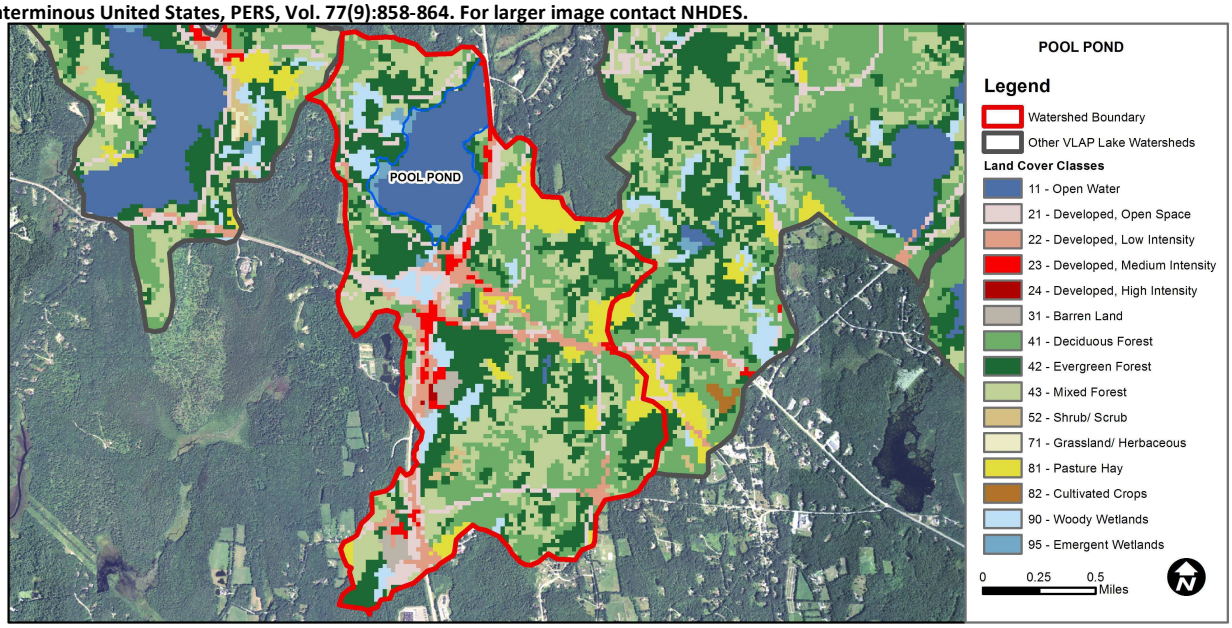
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	9.09	Barren Land	1.47	Grassland/Herbaceous	0.04
Developed-Open Space	7.49	Deciduous Forest	19.62	Pasture Hay	5.74
Developed-Low Intensity	5.32	Evergreen Forest	23.88	Cultivated Crops	0
Developed-Medium Intensity	1.74	Mixed Forest	19.92	Woody Wetlands	4.38
Developed-High Intensity	0.1	Shrub-Scrub	0.34	Emergent Wetlands	0.89

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
POOL POND, RINDGE, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Chlorophyll data were invalid in 2012. Field duplicate data did not meet quality control criteria. Historical trend analysis through 2011 indicates chlorophyll levels tend to fluctuate from year to year.
- **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride levels were much greater than NH lake median values. Rt. 202 is located along the eastern edge of the lake and road salting practices likely contribute to elevated conductivity and chloride levels.
- **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) phosphorus levels were slightly less than the NH lake median and were much lower than levels measured from 2005-2010. Historical trend analysis indicates epilimnetic phosphorus levels tend to fluctuate from year to year. Phosphorus levels were slightly elevated in the tributaries, however turbidity was also slightly elevated and sediment/organic material could have contributed to phosphorus.
- **TRANSPARENCY:** Transparency improved from 2011 and was the highest measured since 2009. However, historical trend analysis indicates a significantly decreasing (worsening) transparency since monitoring began.
- **TURBIDITY:** Turbidity levels were slightly elevated in Lilys Inlet and Old Forge Inlet due to lower water flows.
- **PH:** pH levels were in a good range, but historically have been less than desirable.
- **RECOMMENDED ACTIONS:** Increase monitoring frequency to three times per summer to better assess summer water quality and historical trends. The worsening lake transparency is concerning and additional monitoring may help identify potential causes, such as stormwater runoff. Maintain chloride monitoring to establish a baseline data set.

Dissolved Oxygen & Temperature Profile

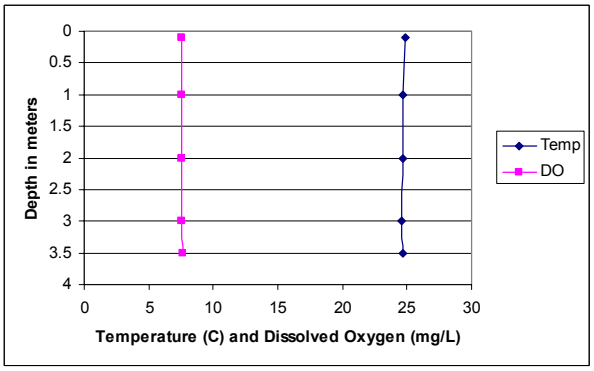


Table 1. 2012 Average Water Quality Data for POOL POND

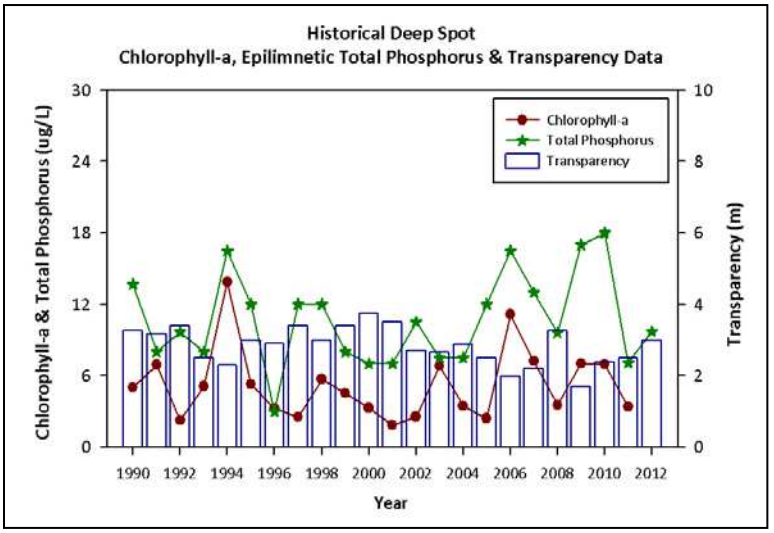
Station Name	Alk.	Chloride	Cond.	Total P	Trans.		Turb.	pH
	mg/l	mg/l	uS/cm	ug/l	m		ntu	
					NVS	VS		
Deep Epilimnion	6.00	38	157.5	10	3.00	3.40	1.03	6.77
Lilys Inlet		58	230.5	21			2.97	6.60
Old Forge Inlet		63	248.0	17			2.43	6.71

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.
Transparency	Degrading	Data significantly decreasing (worsening).
Phosphorus (epilimnion)	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.



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